

EM111-RTU-2P**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Energy meters - BasicLine

Core functions of energy data acquisition

The BasicLine devices measure power characteristics of single-phase or three-phase loads.

For this purpose, basic values are provided to make the energy demand of a system transparent.

The essential values are displayed directly on the unit and communicated via a network.

Our devices are suitable either for mounting on top hat rails or in the front panel.

By focusing on core functions, the BasicLine devices have a very good cost-benefit ratio.

General ordering data

Version	Power measurement/display for 1-phase mains, 45 A, direct measurement, pulse output, Modbus RTU
Order No.	7760051001
Type	EM111-RTU-2P
GTIN (EAN)	6944169818172
Qty.	1 pc(s).

EM111-RTU-2P

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Dimensions and weights

Depth	62 mm	Depth (inches)	2.441 inch
Height	90 mm	Height (inches)	3.543 inch
Width	17.5 mm	Width (inches)	0.689 inch
Net weight	90 g		

Temperatures

Storage temperature	-40 °C...70 °C	Operating temperature	-25 °C...55 °C
Humidity	0...90 % (no condensation)		

Measuring current input

AC input cable connection	1 removable 3-pin terminal block	Current-measuring channels	1
Housing main material	Plastic	Max. current	45 A
Measuring accuracy for current	0.5 %	Rated current	5 A

Measuring voltage input

Four-wire system	No	Frequency range, max.	60 Hz
Frequency range, min.	50 Hz	Low voltage network	1 phase 2 wire (L + N)
Measurement range, voltage L-N, AC	176...276 V	Measuring accuracy for voltage	0.5 %
Three-wire system	No	Voltage type	AC

Communication

Addressing	1 - 247	Baud rate	≤ 9600 Bd
Communication	Bi-directional	Parity	none, even, odd
Stop bits	1, 2	Interface	RS485
Protocol	Modbus RTU		

Inputs/outputs

Digital output configurable	Yes	Input type	1 phase AC (L1, N)
Number of digital inputs	0	Number of digital outputs	0
Number of pulse outputs	2		

Measurement data recording

Update interval register	100 ms	Software	EM configuration tools
--------------------------	--------	----------	------------------------

EM111-RTU-2P

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Technical data

Display	LCD	Display monitoring (monitor)	LCD
Display value	Voltage, current measured value, Apparent power, Reactive power, Power factor, Frequency, Import / export active power demand, Total import / export active energy, Total import / export reactive energy, Total system power demand	Input frequency	
Max. current	45 A	Measurement accuracy	AC: 50 Hz (arithmetic average) Class 1 (IEC 62053-21), Class B (EN 50470-3), 0.5% in relation to final value (U / I)
Pollution severity	2	Power factor input	1 %
Protection degree	Front panel: IP51, IP20	Rated current	5 A
Type of mounting	DIN rail	Version	Power measurement/display for 1-phase mains, 45 A, direct measurement, pulse output, Modbus RTU
Measurement range, voltage L-N, AC	176...276 V	Surge voltage category	II
Three-wire system	No	Four-wire system	No
Sampling frequency 50/60 Hz	3.2 kHz	Measurement result per second	100 ms
Current-measuring channels	1	Measuring accuracy for voltage	0.5 %
Measuring accuracy for current	0.5 %	Measurement accuracy for active energy (kWh, .../5 A)	Class 1 (IEC 62053-21), Class B (EN 50470-3)

Insulation coordination

Impulse withstand voltage	6 kV (1.2/50 µs)	Insulation voltage input or output/supply	4 kV _{eff} / 1 min.
Pollution severity	2	Surge voltage category	II

Connection data

Stripping length	8 mm	Type of connection	Screw connection
Wire cross-section, solid, min.	2.5 mm ²	Wire cross-section, solid, max.	10 mm ²
Wire connection cross section, finely stranded, min.	2.5 mm ²	Wire connection cross section, finely stranded, max.	10 mm ²
Wire connection cross section, finely stranded, two clampable wires, min.	2.5 mm ²	Wire cross-section, finely stranded, two clampable wires, max.	10 mm ²

Classifications

ETIM 6.0	EC002301	ETIM 7.0	EC002301
ETIM 8.0	EC002301	ETIM 9.0	EC002301
ETIM 10.0	EC002301	ECLASS 9.0	27-14-23-30
ECLASS 9.1	27-21-03-01	ECLASS 10.0	27-14-23-30
ECLASS 11.0	27-14-23-30	ECLASS 12.0	27-14-23-30
ECLASS 13.0	27-14-23-30	ECLASS 14.0	27-14-23-30
ECLASS 15.0	27-14-23-30		

EM111-RTU-2P

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Approvals

Approvals



Approvals MAMID

https://mdcop.weidmueller.com/mediadelivery/rendition/900_319222/-T1z1mm-S800/

ROHS

Conform

Environmental Product Compliance

RoHS Compliance Status

Compliant

REACH SVHC

No SVHC above 0.1 wt%

Downloads

Approval/Certificate/Document of Conformity

[Declaration of Conformity](#)

Engineering Data

[CAD data – STEP](#)

Software

[EM configuration tools](#)[Device description – Device description – MODBUS address list](#)

User Documentation

[Manual EM configuration tools Chinese](#)[Manual EM configuration tools English](#)[Manual EM111 English](#)[Manual EM111 Chinese](#)

Catalogues

[Catalogues in PDF-format](#)

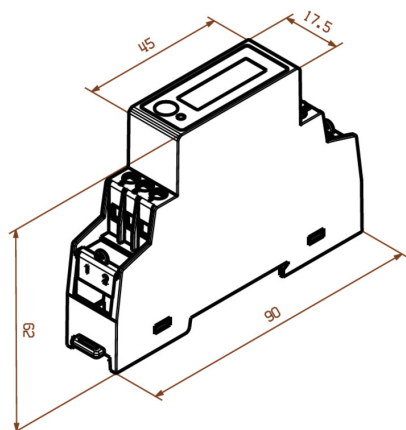
EM111-RTU-2P

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany

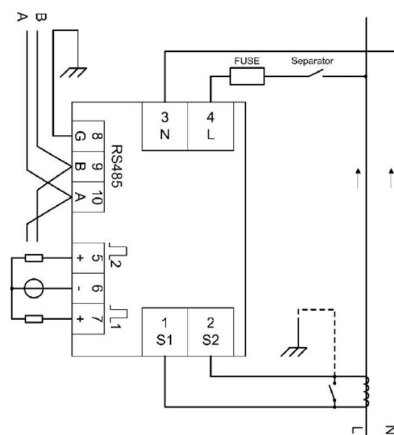
www.weidmueller.com

Drawings

Dimensioned drawing



Wiring



Layout



Full screen